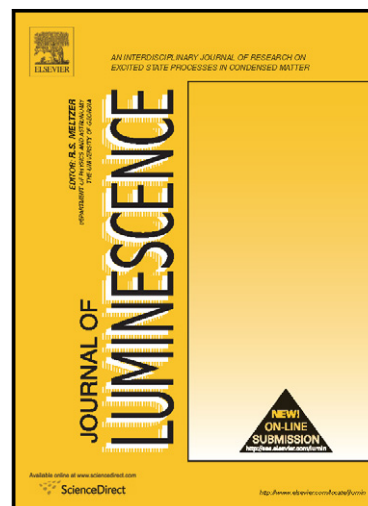


# Author's Accepted Manuscript

Interaction mode and nanoparticle formation of bovine serum albumin and anthocyanin in three buffer solutions

Rui Zhou, Xueyan Dong, Lanlan Song, Hao Jing



[www.elsevier.com/locate/jlumin](http://www.elsevier.com/locate/jlumin)

PII: S0022-2313(14)00371-8  
DOI: <http://dx.doi.org/10.1016/j.jlumin.2014.06.037>  
Reference: LUMIN12764

To appear in: *Journal of Luminescence*

Received date: 28 January 2014  
Revised date: 8 June 2014  
Accepted date: 18 June 2014

Cite this article as: Rui Zhou, Xueyan Dong, Lanlan Song, Hao Jing, Interaction mode and nanoparticle formation of bovine serum albumin and anthocyanin in three buffer solutions, *Journal of Luminescence*, <http://dx.doi.org/10.1016/j.jlumin.2014.06.037>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

1 **Interaction mode and nanoparticle formation of bovine serum albumin and anthocyanin in**  
2 **three buffer solutions**

3

4 Rui Zhou, Xueyan Dong, Lanlan Song, Hao Jing\*

5

6 College of Food Science and Nutritional Engineering, China Agricultural University,

7 17 Qinghua East Road, Haidian District, Beijing 100083, China

8

9 **\*Author for correspondence**

10 Hao Jing, M.D., Ph.D.

11 College of Food Science and Nutritional Engineering

12 China Agriculture University, Beijing 100083 China

13 E-mail: hao.haojing@gmail.com

14 Phone/fax: 86(010)-6273-7909

15

16 **Abbreviation**

17 BSA, Bovine serum albumin; ACN, Anthocyanin; dH<sub>2</sub>O, Deionized water; PBS, Phosphate buffer  
18 solution; NaCl, Sodium chloride buffer solution; PBS-NaCl, PBS-NaCl buffer solution; TEM,  
19 Transmission electron microscopy; DLS, Dynamic light scattering; PDI, Polydispersity index; Trp,  
20 Tryptophan; Tyr, Tyrosine; Phe, Phenylalanine; Arg, Arginine; Gln, Glutamine; SFN,  
21 Sulforaphane; DMSO, Dimethyl sulfoxide; C3G, Cyaniding-3-O-glucoside.

22

23 **Abstract**

24 Investigation of interaction mode of bovine serum albumin (BSA) and anthocyanin (ACN) in  
25 different solutions will help us understand the interaction mechanism and functional change of  
26 bioactive small molecule and biomacromolecule. This study investigated the binding mode,  
27 including binding constant, number of binding sites, binding force of BSA and ACN interaction in  
28 three buffer solutions of phosphate (PBS), sodium chloride (NaCl), and PBS-NaCl, using  
29 fluorescence spectroscopy and synchronous fluorescence spectroscopy. Formation and  
30 characteristics of BSA-ACN complex were also investigated using dynamic light scattering (DLS)

Download English Version:

<https://daneshyari.com/en/article/5399438>

Download Persian Version:

<https://daneshyari.com/article/5399438>

[Daneshyari.com](https://daneshyari.com)